Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARTIN SCHLOTT AND JOSEF HEINDEL

Appeal No. 1998-2166
Application No. 08/572,792

ON BRIEF

Before OWENS, TIMM, and DELMENDO, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1-4, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a target for sputtering with a magnetron cathode. The target is composed of a cobalt based alloy containing chromium and optionally several other metals. Only those targets composed of alloys having a Curie temperature[1] below 80 EC are encompassed by the claims. Claim 1 is illustrative:

> 1. A target for sputtering with a magnetron cathode, the target consisting of a Co base alloy with addition of Cr, the alloy having a composition such that the Curie temperature of the alloy is below 80 EC, and the alloy consisting of Co, 0-20 at. % Pt, 18-21 at. % Cr, and optionally R, wherein R stands for one of more elements selected from the group consisting of Mo, Pd, Ni, Ti, V, Ta, W, and B.

The prior art references of record relied upon by the Examiner in rejecting the appealed claims are:

Lal et al. (Lal)	5,057,200	Oct. 15, 1991
Doerner et al. (Doerner)	5,523,173	Jun. 04, 1996 (filed Dec. 27, 1994)

Claims 1-4 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Lal. Claims 1-4 also stand rejected under 35 U.S.C. § 102(e)

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[1]Appellants define the Curie temperature as the intersection of the high-temperature asymptote of the magnetization curve M(T) with the tangent to the area of steepest slope of the magnetization curve M(T)(specification page 3).

as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Doerner[2]. We reverse for the reasons presented in the Brief and add the following for emphasis.

OPINION

The rejections are based on the fact that Doerner and Lal each describe a range of alloy compositions encompassing the subset of compositions recited by the claims. The Examiner reasons that the instant target composition is therefore considered to be shown by the prior art except for the claimed Curie temperature property limitation. The Examiner concludes that the Curie temperature is inherently disclosed by the prior art because the claimed compositions are within the genus of alloys described by Doerner and Lal (Answer, pages 3 and 4).

While the genera of alloy compositions described by Lal and Doerner include the subset of compositions of the claims, that in itself does not necessarily render the claimed subset of compositions anticipated. The description of the location of a hundred acre forest would not necessarily lead one to a grove containing one hundred particular trees within that forest. One would not say that the grove is described unless one could easily pick out the trees in the subset. In other words, the description must enable one of ordinary skill in the art to find the members of the subset. Furthermore, it is not a foregone conclusion that the identity of the subset of compositions of the claims would have been

[2]A rejection over Kinoshita, Kanamaru or Bourez made in the Final Rejection has been withdrawn by the Examiner (Answer, page 3).

obvious from the description of either genus. The amount of exploration required to find the grove containing the one hundred particular trees may well make the location unobvious if details as to the identity and characteristics of those one hundred trees are unknown. This is the situation in the present case. Neither Doerner or Lal describe which alloys within the genus of either reference have a Curie temperature below 80 °C.

We agree with the Examiner that a *prima facie* case of unpatentability would be established if a Curie temperature below 80 °C is an inherent characteristic of the genus of alloys described by either of the references. "[I]t is elementary that the mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to those things to distinguish over the prior art." *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977)(quoting *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (1971)). However, to be an inherent property, the Curie temperature of the genus of prior art alloys must always be lower than 80 EC each time the prior art description of formulating the alloy composition is followed. Alternatively, the Examiner must point to an exemplified alloy which would reasonably be believed to have the property. "Inherency ... may not be established by probabilities of possibilities. The mere fact that a certain thing *may result* from a given set of circumstances is not sufficient." *Mehl/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1365, 52 USPQ2d 1303, 1305 (Fed. Cir. 1999)(quoting *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)). *See also Glaxo, Inc. v. Novopharm*

Ltd., 830 F.Supp. 871, 874, 29 USPQ2d 1126, 1128 (E.D. N.C. 1993), *aff'd*, 34 USPQ2d 1565 (Fed. Cir.), *cert. denied*, 516 U.S. 988 (1995)("[I]t is not sufficient that a person following the disclosure sometimes obtain the result set forth in the claim, it must invariably happen.").

The Examiner has provided insufficient evidence or technical reasoning tending to show that the genera of prior art alloy compositions relied upon to establish unpatentability always or invariably have a Curie temperature below 80 EC. In addition, the Examiner fails to point to any single exemplified alloy having concentrations of alloy components within the ranges of the claim along with reasoning tending to show that this particular alloy would inherently have a Curie temperature below 80 °C.

The Examiner points out that the prior art concentration ranges encompass the claimed ranges, but that does not necessarily mean that each and everyone of the encompassed alloys necessarily has a Curie temperature below 80 °C. In fact, Appellants indicate in the specification (Table 1, page 6) that cobalt based alloys with 9 at. % Pt and 19 at. % Cr and 13 at. % Pt and 19.5 at. % Cr have Curie temperatures above 80 °C. The alloys exemplified in the specification have concentrations of elements in the claimed ranges yet do not have Curie temperatures in the claimed range. Therefore, the evidence of record tends to show that not all the alloys in the prior art genera have a Curie temperature within the claimed range.

Furthermore, the fact, pointed out by the Examiner (Answer, page 3), that Doerner indicates that the concentration of chromium affects the Curie temperature does not establish that the Curie

temperature is below 80 °C for any particular range of chromium. The alloy of Doerner is described as a "CoPtCrB alloy with a chromium content in excess of 17 atomic percent [which] exhibits high coercivity, low noise, and high Curie temperatures." (Abstract). We are cognizant of the fact that what is a "high" Curie temperature has not been established. On the other hand, there is no proof that the Curie temperature is below 80 °C either. As there is no convincing technical reasoning supporting a finding that the Curie temperature is below 80 EC for all the alloys in the range or even a single exemplified alloy, the Examiner has failed to establish that the prior art alloys are the same or substantially similar to the claimed alloys.

We conclude that the Examiner has failed to establish a *prima facie* case of unpatentability with respect to the subject matter of claims 1-4.

CONCLUSION

To summarize, the decision of the Examiner to reject claims 1-4 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Lal and

under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious

Doerner is reversed.

REVERSED

TERRY J. OWENS Administrative Patent Judge	)
CATHERINE TIMM Administrative Patent Judge	) BOARD OF PATENT) APPEALS) AND) INTERFERENCES
ROMULO H. DELMENDO Administrative Patent Judge	)

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APPEAL NO. 1998-2166 - JUDGE TIMM
APPLICATION NO. 08/572,792

APJ TIMM

APJ OWENS

APJ DELMENDO

DECISION: **REVERSED**

Prepared By : Susan Thompson

DRAFT TYPED: 13 Jun 02

FINAL TYPED: